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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

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ART UNIT

PAPER NUMBER

2675

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 09/678,110	Applicant(s) Rosenberg et al.
Examiner Alecia Nelson	Art Unit 2675



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Oct 2, 2000

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

4) Claim(s) 15, 17, 18, and 36-74 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 15, 17, 18, and 36-48 is/are allowed.

6) Claim(s) 49-59, 63-67, 69, and 70 is/are rejected.

7) Claim(s) 60-62, 68, and 71-74 is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) Interview Summary (PTO-413) Paper No(s). _____

19) Notice of Informal Patent Application (PTO-152)

20) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. **Claims 49-74** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacon et al. (U.S. Patent No. 5,473,344) in view of Engel et al. (U.S. Patent No. 5,781,172).

With reference to **claims 49 and 63**, Bacon et al. teaches a user manipulandum, mouse (100), which includes partially enclosed, within the upper and lower housings (102) and (104), a ball (117) that protrudes through hole (120) in the lower housing (104). X and Y axis transducers (121) and (121'), each include an encoder wheel shaft (122) and an encoder wheel (124), which are used for detection of movement of the ball (117). Left and right thumb wheels (106) and (108) projecting from left and right sides of the mouse (100). Each thumb wheel (106) and (108) have an axial bore (134) and a thumb wheel shaft (138). Each thumb wheel shaft (138) has a wheel pin (126), end pin (127) and an encoder wheel (124), as is formed on each encoder wheel shaft (122), and are used in detecting movement of the thumb wheel (106) or (108) (see column 3, line 53-column 4, line 65), and hence moves independently from user manipulandum. The usage of the ball (117) and the thumb wheel (106, 108) thereby provides two degrees of freedom of the device.

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Bacon fails to teach that the thumb wheels have an actuator attached thereto for applying a force to the mouse. However, Bacon et al. does teach the usage of thumb wheel shaft supports (142-144) that inhibit each thumb wheel shaft (138) from movement in specific directions when the thumb wheel is being rotated by the user (see column 4, line 65-column 5, line 24) hence providing force to the mouse.

Engel et al. teaches a mouse device that comprises a sphere (30), which slightly extends on the lower side for being brought in frictional contact with a surface, wheels (31) and (32), position sensors (33) and (34), brakes (35) and (36), a processor (37), shafts (46) and (47), accelerator means (44) and (45), and data lines (38-43). The data lines carry information to the processor which in return send signals to the brakes and accelerator means for applying a feedback to the mouse device (see column 4, line 50-column 5, line 5). It is further taught that brakes (35) and (36), and accelerator means (44) and (45) can be replaced with motor (56) and (55) (see column 5, lines 6-23). Engel et al. also suggest that sphere (30) could be replaced with a cylinder shaped object (see column 5, line 24-36).

With reference to **claims 64 and 65**, Bacon and Engel et al. teaches all that is needed with reference to **claim 63**. Both Bacon and Engel et al. further teach that the user device includes a mouse object (see Bacon column 3, lines 34-35, Engel et al. column 4, lines 29-33), as well as the user device includes a sensor of ball and roller assembly (see Bacon column 3, lines 53-67, Engel et al. column 3, line 65-column 4, line 19).

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With reference to **claims 66 and 59**, Bacon and Engel et al. teaches all that is needed as applied to the claims as explained above, Engel et al. further teaches the usage of a motor (55), which works with the processor (17) in order to apply a force to the user device (see column 5, line 11-23).

With reference to **claim 67**, neither Bacon nor Engel et al. specifically teach that the wheel rotates about an axis parallel to said planar workspace. However, it can obviously be seen through the drawings that thumb wheel (106) or (108) rotates about an imaginary axis that is located parallel to the planar workspace to which it operates (see figure 4).

With reference to **claims 53 and 69**, Bacon and Engel et al. teaches all that is needed as applied to the claims as explained above. Engel et al. also teaches the usage of processor (17) that sends and receives signals to thereby apply the necessary force to the user device (see column 4, lines 3-33).

With reference to **claims 50-52, 54, 55, 56, and 70**, Bacon and Engel et al. teaches all that is needed as applied to the claims as explained above. Engel et al. also teaches that a force is applied to the user device when the user controls the cursor through a path (83) on an image (80) displayed on a display screen (see column 6, lines 21-36).

With reference to **claims 57-59**, Bacon et al. and Engel et al. teach all that is needed as applied to **claim 49** as explained above. Engel et al. teaches further teaches an image (80) on a display screen, together with paths along which the member of the device will experience more or less force. The shaded area (81) is an area in which the presence of the cursor is not desired, i.e.,

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when the sphere is present in the area (81) it will experience a force in the direction of area (82) (see column 6, lines 21-26). There is also taught the usage of an acceleration force (see column 5, lines 37-52).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the mouse device with cylinder shaped wheel that has force feed back, as taught by Engel et al., with mouse device, as taught by Bacon et al., to provide a mouse device with an increased range of feedback functionality so that the machine-generated force can affect a richer tactility to the data input device.

Allowable Subject Matter

3. ***Claims 60-63, 68, and 71-74*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. ***Claims 15, 17, 18, and 36-48*** are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: None of the reference teach or fairly suggest a remote control device for adjusting a plurality of functions on at least one electronic device wherein the remote control device adjusting its tactile feel in accordance with a selected one of the plurality of functions selected by the user.

Specifically, Autry et al. (U.S. Patent No. 5,724,106) teaches a remote control device that is

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capable of adjusting functions of at least one electronic device, however fails to teach that the remote control device is capable of adjusting its tactile feel in accordance with the selected function.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. ***Claims 15-74*** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 2-4, 6, 8, 10, 12, 14-20, 25, 26, 28-37, and 39-42** of U.S. Patent No. 6,128,006. Although the conflicting claims are not identical, they are not patentably distinct from each other. The subject matter claimed in **claims 15, 17, 18, 36-40, 49, 51-69, and 71-74** of the instant application is fully disclosed in **claims 2-4, 6, 8, 10, 12, 14-20, 25, 26, 28-37, and 39-42** of the patent claiming the common subject matter as follows: a remote

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control device with a wheel rotatably coupled to a housing of control device and rotatable about an axis which is being manipulated by at least one digit of a user; a sensor coupled to wheel for sensing a rotation of the wheel and providing data based on the rotation to one or more electronic devices; an actuator coupled to the wheel for outputting a computer-modulated force sensation on the wheel which is felt by the digit of the user; and a controller coupled to the actuator and sensor for modulating actuator to create a force sensation upon the user that corresponds with the selected one of the functions. Even though **claims 15, 49, and 62** of the application contain less of the limitations of the patent the claims of the instant application, as stated above, and the patent contain common patentable subject matter.

Claims 16, 41-48, 50, and 70 are rejected for being dependent on a rejected base claim.

Conclusion

8. Any response to this action should be mailed to: Commissioner of Patents and Trademarks Washington, D.C. 20231; or faxed to (703)309-9051, (for formal communications intended for entry) or: (703)308-6606 (for informal or draft communications, please label “PROPOSED or DRAFT”). Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive Arlington, VA., Sixth floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703)305-0143.

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If attempts to reach the above examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703)305-9720.



STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

adn/ADN
July 1, 2001